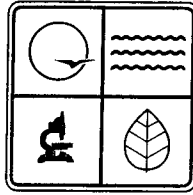


STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES  
MISSOURI AIR CONSERVATION COMMISSION

PERMIT BOOK



## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **052006-001** Project Number: **2006-03-027**

Owner: **Associated Electric Cooperative, Inc.**

Owner's Address: **2814 South Golden, P.O. Box 754, Springfield, MO 65801**

Installation Name: **Associated Electric Cooperative, Inc. - New Madrid Power Plant**

Installation Address: **St. Jude Road, P.O. Box 156, New Madrid, MO 63869**

Location Information: **New Madrid County, S22N, T29, R14E**

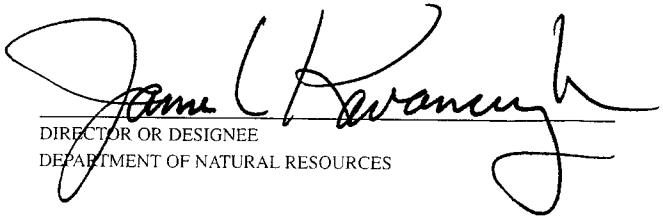
Application for Authority to Construct was made for:

**Addition of two (2) 345 horsepower diesel water pumps. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.**

- 
- ☐ Standard Conditions (on reverse) are applicable to this permit.
- ☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

**MAY - 1 2006**

EFFECTIVE DATE

  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

2006-03-027

Associated Electric Cooperative, Inc.

2814 South Golden, P.O. Box 754, Springfield, MO 65801

Associated Electric Cooperative, Inc. - New Madrid Power Plant

St. Jude Road, P.O. Box 156, New Madrid, MO 63869

New Madrid County, S22N, T29, R14E

Addition of two (2) 345 horsepower diesel water pumps. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

|             |             |
|-------------|-------------|
| Page No.    | 2           |
| Permit No.  |             |
| Project No. | 2006-03-027 |

# SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

New Madrid Power Plant  
New Madrid County, S22N, T29, R14E

1. Emission Limitation – Nitrogen Oxides (NO<sub>x</sub>)
  - A. Associated Electric Cooperative, Inc. – New Madrid Power Plant shall emit less than forty (40) tons nitrogen oxides (NO<sub>x</sub>) from the two (2) 345 horsepower (hp) diesel water pumps (EP-13) in any consecutive twelve (12) month period.
  - B. Associated Electric Cooperative, Inc. – New Madrid Power Plant shall maintain the monthly and the sum of the most recent consecutive twelve (12) month records of NO<sub>x</sub> emissions from the two (2) pumps. Attachment A or equivalent forms approved by the Air Pollution Control Program shall be used for record keeping. Associated Electric Cooperative, Inc. – New Madrid Power Plant shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
  - C. Associated Electric Cooperative, Inc. – New Madrid Power Plant shall report to the APCP's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition No. 1.B. indicate that the source exceeds the limitations in Special Condition No. 1.A.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2006-03-027  
Installation ID Number: 143-0004  
Permit Number:

New Madrid Power Plant  
St. Jude Road, P.O. Box 156  
New Madrid, MO 63869

Complete: March 7, 2006  
Reviewed: March 24, 2006

Parent Company:  
Associated Electric Cooperative, Inc.  
2814 South Golden, P.O. Box 754  
Springfield, MO 65801

New Madrid County, S22N, T29, R14E

REVIEW SUMMARY

- New Madrid Power Plant has applied for authority to add two (2) 345 horsepower (hp) diesel water pumps.
- Hazardous Air Pollutant (HAP) emissions are expected from the combustion of diesel fuel, but in negligible amounts.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations applies to the proposed equipment. Subpart ZZZZ, Reciprocating Internal Combustion Engines refers to engines at least 500 hp in size; the 345 hp engines being installed are exempt.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO<sub>x</sub> are conditioned to de minimis levels.
- This installation is located in New Madrid County, an attainment area for all criteria air pollutants.
- This installation is on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2] No. 26, Fossil-Fuel Electric Plants.

- Ambient air quality modeling was not performed since potential emissions of the application are conditioned to de minimis levels.
- Emissions testing is not required for the equipment.
- Revision to your Part 70 Operating Permit application is required for this installation within one (1) year of equipment startup.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

Associated Electric Cooperative, Inc. - New Madrid Power Plant is an existing major source located in New Madrid, Missouri. The installation operates two (2) existing coal-fired boilers to generate electrical power.

Associated Electric Cooperative, Inc. – New Madrid Power Plant is considered a Part 70 source by operating permits and was issued Permit No. OP2001-003 in January 2001. The permit renewal (dated July 26, 2005) is currently under review.

The following construction permits have been issued to Associated Electric Cooperative, Inc. - New Madrid Power Plant from the Air Pollution Control Program.

| Permit Number | Description                                       |
|---------------|---|
| 1292-014      | Switch from high sulfur to low sulfur coal        |
| 12002-013     | Eight (8) 300 hp diesel-fired cooling water pumps |

## PROJECT DESCRIPTION

Associated Electric Cooperative, Inc. - New Madrid Power Plant proposes to install two (2) 345 horsepower (hp) diesel water pumps. The addition of the pumps is necessitated to ensure adequate cooling water supply during periods of low river flows. According to manufacturer's performance data, each water pump can consume a maximum of 16.9 gallons of fuel per hour. There will be no additional control devices for this project.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors, Fifth Edition*, Section 3.3, *Gasoline and Diesel Industrial Engines (10/96)*. The existing potential emissions were taken from Permit No. 122002-01. Existing actual emissions were taken from the installation's 2004 Emission Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

| Pollutant        | Regulatory<br><i>De Minimis</i><br>Levels | Existing<br>Potential<br>Emissions | Existing<br>Actual<br>Emissions<br>(2004EIQ) | Potential<br>Emissions<br>of the<br>Application | New<br>Installation<br>Conditioned<br>Potential |
|------------------|---|------------------------------------|--|---|---|
| PM <sub>10</sub> | 15.0                                      | 772.81                             | 348.33                                       | 6.29  | 2.81  |
| SO <sub>x</sub>  | 40.0                                      | 23,354.63                          | 15,094.32                                    | 5.88  | 2.63  |
| NO <sub>x</sub>  | 40.0                                      | 54,067.00                          | 28,037.21                                    | 89.44   | <40.0   |
| VOC              | 40.0                                      | 274.21                             | 245.05                                       | 7.30  | 3.27  |
| CO               | 100.0                                     | 1214.87                            | 1,113.55                                     | 19.27   | 8.62  |
| HAPs             | 10.0/25.0                                 | 151.42                             | 113.02                                       | 0.08  | 0.04  |
| Lead             | 0.6                                       | N/D                                | 0.38   | N/A   | N/A   |

N/A = Not Applicable; N/D = Not Determined

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NO<sub>x</sub> are conditioned to de minimis levels.

### APPLICABLE REQUIREMENTS

New Madrid Power Plant shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

- *Restriction of Emission of Odors*, 10 CSR 10-3.090

#### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Susan Heckenkamp  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 7, 2006, received March 7, 2006, designating Associated Electric Cooperative, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated March 14, 2006.



**Attachment A: NO<sub>x</sub> Compliance Worksheet for EP-13**  
Associated Electric Cooperative, Inc. - New Madrid Power Plant  
New Madrid County, S29, T22N, R14E  
Project Number: 2002-11-124  
Installation ID: 143-0004  
Permit Number:

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_.  
(month, year) (month, year)

[illegible]

- (a) Total amount of diesel fuel burned in diesel pumps (EP-13).
- (b) Emission Factor taken from *AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.3 Gasoline and Diesel Industrial Engines*
- (c) Column 1 x Column 2 x 0.0005.
- (d) Sum of last 12-months of Column 3.

NOTE: A 12-Month total NO<sub>x</sub> emissions less than 40.0 tons for Column 4 indicates compliance.

Mr. Todd Tolbert  
Environmental Specialist  
New Madrid Power Plant  
St. Jude Road, P.O. Box 156  
New Madrid, MO 63869

RE: New Source Review Permit - Project Number: 2006-03-027

Dear Mr. Tolbert:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your revised operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Thank you,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:shl

Enclosures

c: Southeast Regional Office  
PAMS File 2006-03-027

Permit Number: